Grand Rapids
Water System

2008
Water Quality Report

Water Quality

Before it gets to your home, the Grand Rapids Water System filters and treats your water. We take our water quality very seriously. This is to insure that your water meets or exceeds requirements of the Environmental Protection Agency (EPA) and the Michigan Department of Environmental Quality (MDEQ). Our lab received a near perfect rating during 2008. The MDEQ auditor stated, "Of the hundreds I have completed, this on-site inspection comes as close as any to having no observed deficiencies, which is commendable based on the knowledge, experience and dedication it takes to get to that level of operation."

This annual Water Quality Report, required by the Safe Drinking Water Act, contains results from monitoring of over 80 regulated substances. All of the detected amounts from samples collected and analyzed in 2008 are listed in the data table. The Grand Rapids Water System monitors many of these substances more frequently than required, and as a consequence, this data is also included in the table.

Who We Serve

On an average day, 37 million gallons of water are supplied to our customers. Approximately 1,200 miles of pipe within our distribution system provide water to citizens in Ada Township, Cascade Township, East Grand Rapids, Grand Rapids, Grand Rapids Township, Kentwood, Tallmadge Township, Walker and portions of Ottawa County.

Water is a Resource

Water is a valuable asset. While we take it for granted when we turn on our tap, it is a precious commodity. Our mission is to maintain the system and provide a quality and affordable product to meet all our customer needs while protecting this natural resource. By using water efficiently, we can help preserve our water supply for future generations. We hope that information provided in this report assists our customers' understanding of drinking water and heightens awareness of the need to protect water resources.

How Much Water Do You Use?

Did you know how much water a family of four uses? Not 50 gallons, not 100 gallons, but 400 gallons a day! Water is a necessity, but are there ways we can save some of this much needed resource? Let's take a look.

Water Saving Tips

- ✓Check faucets, toilets and pipes for leaks, up to 200 gallons of water can be wasted each day.
- ✓Run only full loads in your dishwasher. Dishwashers use between 10-14 gallons of water.
- ✓Chill a pitcher of water in the refrigerator instead of running the faucet until the water is cold.
- ✓When you need to replace water using appliances, buy an Energy Star-rated appliance.
- ✓Before rinsing dishes, put the sink stopper in place instead of running the water.
- ✓Select proper water level for laundry, wash full loads. Washers can use 40-50 gallons per load.
- ✓Take a quick shower, baths use 70 gallons to fill up while 10-25 gallons are used for a 5 minute shower.

- ✓Turn off the water while brushing teeth or shaving saving up to 8 gallons of water.
- ✓Aerate your lawn so that water will seep in and not run off.
- ✓Water your lawn in the early afternoon before the hottest part of the day.
- ✓Avoid watering during high winds so that you are not watering sidewalks, the street or side of your home. Take advantage of the rain. Catch water in buckets for watering plants.
- ✓When washing your car, use a positive shut-off nozzle on your hose and don't let water run down the street, a hose can waste 6 gallons of water a minute.

Lead and Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Grand Rapids Water System is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1(800) 426-4791 or their website at **http://www.epa.gov/safewater/lead.** The Grand Rapids Water System implemented a corrosion control program in 1994 to reduce the amount of lead possibly leaching from household plumbing. Prior to the corrosion control program, 37% of the homes tested had lead levels above EPA's lead limit. Since 1994, lead levels have decreased, and in our most recent testing, only one of the 50 homes tested had a lead level above the action limit.

About Contaminants

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include**:** ***Microbial contaminants*** such as viruses and bacteria which may have come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; ***Inorganic contaminants*** such as salts and metals which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming; ***Pesticides and herbicides*** which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses; ***Organic chemical contaminants*** including synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems; and ***Radioactive contaminants*** can be naturally-occurring or be the result of oil and gas production and mining activities.

2008 Water Quality Data

Regulated at the Treatment Plant

Substance	Units	Range of Detections	Highest Level Detected	MCL	MCLG	Violations	Likely Sources
Barium	ppm	0.021 - 0.024	0.024	2	2	No	Erosion of natural deposits
Fluoride	ppm	0.83 - 0.95	0.95	4	4	No	Water additive which promotes strong teeth
Nitrate	ppm	n.d. - 0.7	0.7	10	10	No	Erosion of natural deposits
Turbidity*	NTU	0.011 - 0.143	0.143	TT	n/a	No	Soil runoff

*Our treatment for turbidity was in 100% compliance of the regulatory limit. We are allowed a minimum of 95% compliance.

Regulated in the Distribution System

Substance	Units	Range of Detections	Maximum Running Annual Average	MCL or MRDL	MCLG or MRDLG	Violations	Likely Sources
Chlorine Residual	ppm	0.13 - 1.46	0.9	4	4	No	Water additive used to control microbes
Haloacetic Acids	ppb	2.6 - 42.0	23.5	60	n/a	No	By-product of drinking water chlorination
Total Trihalomethanes	ppb	13.6 - 67.7	36.8	80	n/a	No	By-product of drinking water chlorination

Regulated at the Customer's Tap

Substance	Units	Range of Detections	90th Percentile	AL	MCLG	# of Samples exceeding AL	Likely Sources
Copper (tested in 2007)	ppm	0.004 - 0.155	0.058	1.3	1.3	0	Corrosion of household plumbing system
Lead (tested in 2007)	ppb	n.d. - 17	4	15	0	1	Corrosion of household plumbing system

Unregulated Contaminants

Substance	Units	Range of Detections	Average	Likely Sources
Sodium	ppm	8 - 12	9	Mineral and nutrient

No Cryptosporidium Detected - Sampling done at the Lake Michigan Filtration Plant indicates that our source water is considered a low risk for Cryptosporidium and Giardia contamination. These organisms were not detected in any samples collected from our source water or our treated tap water during this reporting period.

Note: The data table contains the highest annual test results for all required and voluntary monitoring of regulated substances. The Grand Rapids Water System monitors many regulated substances more frequently than required, and as a consequence, these results are included in the table above.

Water Quality Table Key and Definitions

MCL - Maximum Contaminant Level: This is the highest level of a substance that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG - Maximum Contaminant Level Goal: The level of a substance in drinking water below which there is no known or expected health risk. MCLG's allow for a margin of safety.
MRDL - Maximum Residual Disinfectant Level: The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG –Maximum Residual Disinfectant Level Goal: The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
ppm - Parts per Million: You win a one million-dollar lottery. You give a friend one dollar. That's 1 ppm.
ppb - Parts per Billion: your rich uncle passes away and leaves you $10 million. However, in counting your inheritance, you discover that 1 cent is missing. That's 1 ppb.
Turbidity - A measure of the clarity of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
NTU - Nephelometric Turbidity Unit: Measurements of the minute suspended particles. Used to judge water clarity.
TT - Treatment Technique: A required process intended to reduce the level of a substance in drinking water.
AL - Action Level: The amount of a substance when exceeded requires a treatment or other response by a water system.
n/a - Not applicable
n.d. - not detected

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

The EPA sets legal limits and regulates the amount of contaminants allowed in drinking water provided by public water systems. Sources of drinking water worldwide (both tap and bottled) may reasonably be expected to contain at least small amounts of some contaminants. Though contaminants are present, it does not necessarily indicate that the water poses a health risk. We treat our water according to EPA regulations.

EPA's health-based standards for drinking water are generally safe, but some people may be more vulnerable to contaminants in drinking water than the general population. Some infants, children or elderly, individuals who have undergone organ transplants, people with HIV/AIDS or persons receiving chemotherapy can be at risk for infections. These people should seek advice from their health care providers. More information on potential health effects of specific contaminants can be obtained by contacting the EPA's Safe Drinking Water Hotline at **1(800)426-4791** or their website at **http://www.epa.gov/safewater/dwhealth.html**.

SOURCE WATER ASSESSMENT

Lake Michigan is the sole source of water treated for the Grand Rapids Water System. This is considered a surface water source. The MDEQ completed a Source Water Assessment for the City of Grand Rapids water supply in 2003. This assessment evaluates the potential risk of contamination based on several factors including geologic sensitivity, water chemistry and contaminant sources. Risk assessment is critical in protecting the source water from future contamination. Environment contamination is not likely to occur when potential contaminants are used and managed properly. The Grand Rapids Water Treatment Plant routinely and continuously monitors the water for a variety of chemicals to assure safe drinking water. Industrial chemicals have not been detected in our source or treated water. The Grand Rapids Water System continues to be involved in and supports watershed protection efforts. Anyone wanting additional information about the Source Water Assessment or has questions concerning the water quality testing results in this report may contact:

John Allen, Filtration Plant Superintendent (616) 456-3700 or jallen@grcity.us
Patty Chapman, Chemist II (616) 456-3700 or pchapman@grcity.us

City of Grand Rapids Water System
1101 Monroe Ave. NW
Grand Rapids, MI 49503

ALL USERS SHOULD RECEIVE A COPY OF THIS REPORT. PLEASE CALL 456-3200 FOR ADDITIONAL COPIES.

Grand Rapids Water System Mission Statement

Produce and deliver excellent water to our customers that will protect public health, support the economy, protect life and property from the threat of fire and contribute to overall quality of life.

If you have questions regarding your bill, leaks or other service related issues, please call our Customer Service Office at 456-3200, Monday through Friday, 8:00 a.m. to 5:00 p.m.

The Grand Rapids City Commission, sets policies for the Water System. The City Commission meets on Tuesdays. For meeting dates and times, please call 456-3168.

This report is available on the internet in the Water Department section of the City's website at:

http://www.grcity.us

En español: Este informe contiene información muy importante sobre el agua potable que le prove a Ud. la ciudad de Grand Rapids. Traduxcalo o hable con alguien que lo entienda bien.